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## Exam Review: Unit 6

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- Vocabulary

Primary data

Secondary data

Biased

Unbiased

Frequency table

Pictograph

Bar graph

Stem and Leaf

Range

Mean

Median

Mode

Line graph

1. Classify the data below as **primary** or **secondary**.

a) Simon and Jack survey all students of TPS on their choice of cupcakes. Their survey is published in the school newspaper. [The survey for students reading the newspaper is...]

b) Katie and Sofia are editors of the school magazine. Later during the week Katie and Sofia use the data from the school newspaper and create a bar graph on cupcakes.

c) Simon uses Katie and Sofia's bar graph to draw a line graph.

2. Give two examples of biased survey questions (on two different topics).

Question 1: \_\_\_\_\_

\_\_\_\_\_

Question 2: \_\_\_\_\_

\_\_\_\_\_

3. For each question in #2 correct the bias and write down an unbiased question.

Question 1: \_\_\_\_\_

\_\_\_\_\_

Question 2: \_\_\_\_\_

\_\_\_\_\_

4. Is the survey question below biased? If it is correct the bias.

Studies shows that physical exercises release harmful toxins from the body and promote good health.

Do you feel exercising is important? Yes \_\_\_\_\_ or No \_\_\_\_\_

\_\_\_\_\_

5. What important data should you write before entering values in a pictograph?

\_\_\_\_\_

6. Aimy Mc Scorin is a rising legend in basketball. The following data shows her score from the last 5 games.

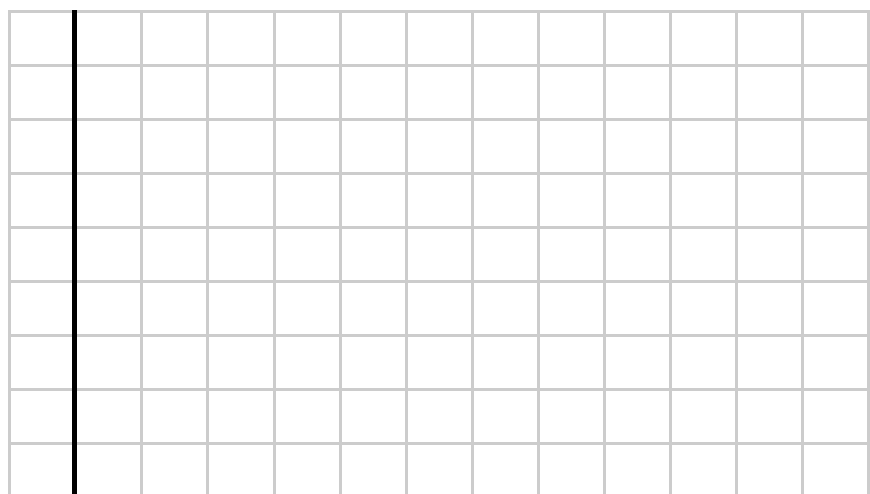
Team	Score
Academy High	30
High Jumpers	25
Floorippers	70
Hoop Dippers	35
Foul Corns	65

Draw a pictograph to represent Aimy's score in the last five games.


7. For each table shown below draw a bar graph.

a)

Temperature (°C)	Ice Cream Sale
20	5
22	15
24	20
26	25
28	2
30	2
32	2



Month	Profit (in millions)
Jan	36
Feb	35
Apr	32
Jun	28
Aug	36
Oct	40
Dec	41

A blank coordinate grid with x and y axes. The grid is 12 units wide and 12 units high. The x-axis is labeled from 1 to 12, and the y-axis is labeled from 1 to 12. The origin (0,0) is at the bottom-left corner. The grid lines are light gray, and the axes are bold black lines.

# of Street Lights	# of Accidents
5	12
10	8
15	7
20	5
25	4
30	2
35	1

A 15x15 grid of squares. A thick black L-shaped line is drawn along the bottom and left edges of the grid, starting from the bottom-left corner and extending to the right and then up.

Favourite Sport	# of Students
Hockey	12
Basketball	35
Baseball	40
Table Tennis	45
Soccer	30
Curling	35
Volleyball	43

NAME: \_\_\_\_\_

## Math 7

8. Draw a stem and leaf plot for the data given below:

a) 2, 5, 7, 3, 9, 2, 5, 1, 8, 6, 12, 21, 15, 2, 16,  
12, 13, 16, 22, 29

Stem	Leaf

b) 14, 25, 26, 22, 31, 53, 59, 32, 25, 36,

Stem	Leaf

c) 78, 91, 82, 120, 72, 94, 121, 86, 124, 72,  
129, 98, 84, 98, 121, 89, 92

Stem	Leaf

d) 310, 340, 356, 317, 359, 356, 311, 349,  
317, 356, 311, 346

Stem	Leaf

e) 178, 191, 182, 180, 172, 194, 171, 186,  
179, 198, 184, 198, 171, 189, 192

Stem	Leaf

f) 520, 450, 466, 427, 469, 466, 421, 459,  
427, 466, 421, 456

Stem	Leaf

g) 8, 1, 2, 12, 2, 14, 21, 86, 14, 2, 29, 8  
84, 18, 12, 19, 82

Stem	Leaf

h) 10, 40, 56, 17, 59, 56, 11, 49, 17, 56,  
11, 46

Stem	Leaf

9. Here are the heights, in centimetres, of the TPS football team.

147, 153, 162, 171, 159, 168, 145, 183, 164, 187, 153, 164, 167, 187, 179, 148, 190, 188, 173, 155, 177, 176, 189, 192.

- What is the range of the data above?
  - What is the median height?
  - What is the mode of the data?
  - What is the mean of the data?
10. The grade 7 class of TPS is taken to the June Rowlands Fair. Each student tries their luck at the “Jingle All The Way” game stall. The game requires each students to pick up a coin from a jar full of coins and guess the coin without looking at it. The list below shows which coin each student picked up:

**Jingle All the Way**

0.10, 0.25, 0.25, 0.25, 0.50, 0.10, 0.05, 0.10, 0.50, 0.10, 0.25, 0.05, 0.50, 0.25, 0.10, 0.25, 0.25, 0.10, 0.50, 0.10, 0.50, 0.10, 0.50

- a. Draw a stem and leaf plot for the data provided above.

Stem	Leaf

- What is the range?
- What is the mode?

- d. How many students were present at the fair?

11. Give an example of a data containing 5 numbers such that:

- The range is 11.
- The median is 35.
- The mode is 32
- The mean is 37

12. Give an example of a data containing 4 numbers such that:

- a. The range is 11.
- b. The median is 35.
- c. The mode is 32
- d. The mean is 37

13. The mean of 10 numbers is 156. The 9 of these numbers are listed below:

145, 148, 150, 160, 159, 152, 157, 158, 159.

Find the 10th number.

14. Fill in the blank with a number so that the median of the data 42.

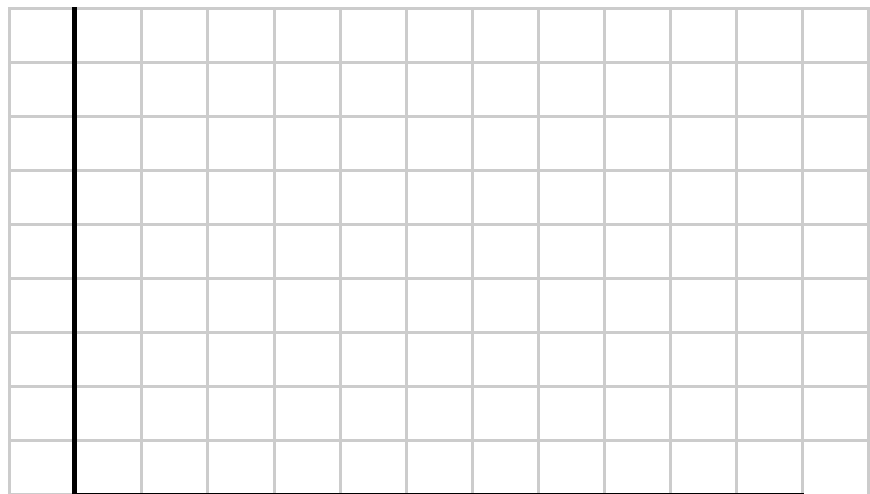
34, 35, 40, \_\_\_\_\_, 47, 48.

15. Ms. Philip is looking at Grade 12 Calculus and Vectors final exam marks. She notices that the median is the 18th number in the list of marks (arranged from least to greatest). How many students wrote the final exam?

16. Make a line graph for the table shown below, then answer the following questions.

a)

Year	Profit (million \$)
1991	36
1992	35
1993	32
1994	28
1995	36
1996	40
1997	41



a) (i) When did the company make most profit?

(ii) Predict the profit for the year 1998.

b)

# of Toppings	Cost of Pizza (\$)
1	9
2	13
3	17
4	21
5	25
6	29
7	34


c)

Minutes spent Charging	Battery (%)
2	35
3	45
4	50
5	55
6	70
7	71
8	76


c) (i) When did the battery charge the most?

(ii) When the the battery charge the least?

17. Classify the following as experimental probability (EP) or theoretical probability (TP):

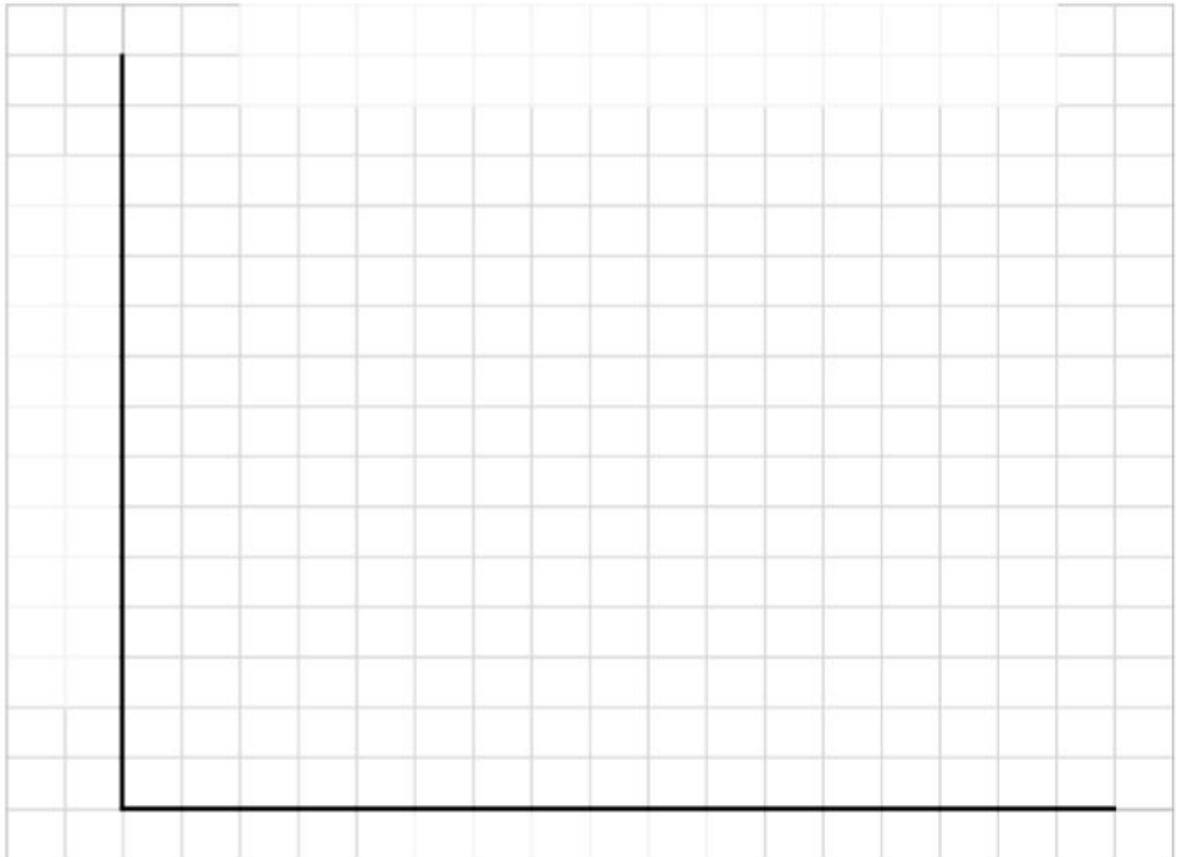
- A soccer goalie and a golfer saved average of 0.875.
- There is a 23% chance of drawing a face card from a standard deck of cards.
- Ms. Philip's magic coin has  $\frac{89}{100}$  chance of showing a head when tossed.
- In a family of 4 children there is a 25% chance that the eldest two are males.
- The Toronto Maple Leafs have 0.478 average win rate.
- On a certain day the weather forecast predicts a 50% chance for it to rain.

18. Look the graph below and discuss why it is misleading.

*Techsons Inc. offers tremendous increase in employee wages*



19. Redraw the graph above so that it not misleading.





20. Gary has to decide what he wears to his prom.

<b>Pants</b>	<b>Shirt</b>	<b>Shoes</b>
Black	Pink	Brown
White	Red	Teal
Grey	Blue	Crimson

- a. Create a tree diagram to show Gary's choices if he has to pick a pair of pant, a shirt and a shoe.
  - b. How many options does Gary have?
  - c. What is the probability that Gary does not pick white pant, but chooses pink or red shirt and crimson shoes.
21. Lucky Seven is a very popular game at most fairs. In this game two six sided dice are rolled and the sum of the dice is noted (whether it's 7, less than 7 or more than 7). Draw a table to show the possible sum when rolling two dice.

- a. What is the probability that the sum of the dice is less than 7?
- b. What is the probability that the sum of the dice is more than 7?
- c. What is the probability that the sum of the dice is exactly 7?

22. Lucky Li a hockey player, has a scoring average of 0.567. During the season it is estimated that he will attempt 120 shots. How many shots will Lucky Li score?
23. In the previous problem, if Lucky Li only attempts 96 shots at the goal, how many shots will he miss?
24. How many outcomes does rolling 3 dice give us?
25. How many outcomes does rolling 5 coins give us?
26. Ms. Philip is bird watching at Lake Ontario. The table below shows her observation.

Color	Number of Birds
Red	12
Black	28
Blue	26
Green	13
Yellow	5

- a. What is the relative frequency of a blue bird?
- b. What is the relative frequency of red or green bird?
- c. What is the relative frequency of not seeing a yellow bird?